Claims:

1. A method of power control in a communications system capable of transmitting a frame having a plurality of time intervals from a transmitter to a receiver, wherein power control is effected on the individual time intervals based upon information passed from the receiver to the transmitter, wherein the receiver seeks to maintain an average signal to noise ratio across the frame.

2. A method according to claim 1, wherein the method comprises:

i. for a first time interval of a frame, setting the initial transmission power level; and

ii. for each subsequent time interval of the frame:

measuring the received signal to noise ratio over subsequent time intervals;

determining the cumulative SNR value over the received time interval of the frame;

determining the number of time intervals remaining in the frame; and,

adjusting the transmission power level in response to signalling from the receiver in respect of a further subsequent time interval based upon said cumulative SNR value and the number of time intervals remaining in the frame such that the required average signal to noise ratio is substantially achieved.

3. A method according to Claim 2, wherein the transmission power level for each subsequent slot is set by:

calculating a predicted signal to noise ratio γ_p using the sum of the measured power levels, the predetermined average S/N ratio γ_d, and the number of remaining time slots.

4. A method according to Claim 2, wherein the required signal to noise ration γ_p is calculated based upon the assumption that a target, of the average signal to noise ratio, γ_d, across the frame, will be met if the calculated predicted signal to noise ratio γ_p is maintained throughout the remainder of the frame, thereby keeping the average signal to noise ratio γ_d substantially constant over the frame.

5. A method according to any one of Claims 1 to 4, wherein the time interval is a time slot.

6. A method according to any one of Claims 1 to 5, wherein the communications system is a spread spectrum communications system.

7. A method according to Claim 6, wherein the spread spectrum communications systems is a CDMA communications system.

8. A method according to Claim 4, wherein the power level setting step achieves a signal to noise ratio, γ_p, which is given by the formula:

$$\gamma_p = \frac{N\gamma_d - \sum_{i=0}^{j-1}\gamma_i}{N-j}$$

wherein γ_i is the S/N ratio received at the base station in the ith interval; $\sum_{i=0}^{j-1}\gamma_i$ is the sum of S/N ratios received corresponding to previous time intervals; and $N\gamma_d$ is the desired total S/N ratio sum over the frame.

9. A method according to Claim 6, wherein the duration of a frame corresponds to a burst comprising a plurality of consecutive CDMA frames.

10. A method according to Claim 6, wherein the duration of a frame corresponds to the duration of a CDMA frame.

11. A transmitter for a communication system operable to transmit in time frames having a plurality of time intervals, the transmitter comprising a power controller operable to:

i. for a first time interval of a frame, set the initial transmission power level; and,

ii. for each subsequent time interval of the frame:

measure the received signal to noise ratio over subsequent time intervals;

determine the cumulative SNR value over the received time interval of the frame;

determine the number of time intervals remaining in the frame; and,

adjust the transmission power level in response to signalling from the receiver in respect of a further subsequent time interval based upon said cumulative SNR value and the number of time intervals remaining in the frame such that the required average signal to noise ratio is substantially achieved.